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Title of Invention: Electronic Stitch Length Regulator for Home Sewing Machines



Abstract

This invention comprises a means to control stitch length of household sewing machines when used on free-motion quilting frames. A sensor in the form of a computer mouse or a pair of sensors in the form of optical encoders is used to determine the translational speed of the set of carriages that hold the sewing machine. This information is sent to electronic circuitry that converts this information to an electrical resistance which is applied to the foot pedal control electrical connector on the sewing machine. When thusly applied, this resistance sets the rotational speed of the sewing machine. This invention achieves stitch length uniformity by maintaining the proper relationship between the input signal from the sensor or sensors caused by carriage translation and the output resistance to the sewing machine which controls its rotational speed.